

### **REMARKS**

Applicant would first like to thank Examiner Hanley for this examination.

Claims 1-13 are currently pending in the application, and claims 1, 2 and 5-7 stand rejected under 35 USC 102 (b) as being anticipated by US Pat. No. 2,175,361 to Reger et al. (hereafter Reger). Claims 3-4, 8 and 10-13 stand rejected under 35 USC 103(a) as being obvious over Reger in view of US Patent No. 6,204,598 to Bruggemann et al. (hereafter Bruggemann). Claim 12 stands rejected under 35 USC 112, second paragraph as being indefinite because it is unclear how an insulating base can act as a fuse.

### **FINALITY OF OFFICE ACTION**

The Office Action of March 17, 2008 was made final. However, the rejections in this Office Action are based on a reference (U.S. Patent No. 2,175,361 to Reger et al.), that was not previously cited. Nor was it presented in response to an amendment by Applicants. Accordingly, Applicants respectfully request withdrawal of the finality of the rejections.

### **SPECIFICATION**

The office action objects to the title as not being descriptive of the invention. Applicants respectfully disagree. The title, as amended, clearly describes the claimed end of life element. Accordingly, Applicants contend that the title, "High Pressure Discharge Lamp With End of Life Device" meets all statutory requirements.

The office action provides guidelines for arrangement of a specification. Applicant appreciates this information and respectfully contends that the application, as provided, meets all statutory requirements.

**CLAIM REJECTION - 35 USC 112, SECOND PARAGRAPH**

Claim 12 stands rejected under 35 USC 112, second paragraph as being indefinite because it is unclear how an insulating base can act as a fuse. Applicants have canceled Claim 12, rendering this rejection moot.

**CLAIM REJECTIONS - 35 USC 102**

Claims 1, 2 and 5-7 stand rejected under 35 USC 102 as being anticipated by US Pat. No. 2,175,361 to Reger et al. (hereafter Reger).

Applicant respectfully contends that claim 1 is allowable because it includes a feature that is neither disclosed nor suggested by Reger or any other reference cited, namely "at least one of the lamp base (8), the first contact member and the second contact member (14, 15) functioning as an end-of-life device." As clearly pointed out in the present application, Applicants have determined that a glow discharge problem occurs in known discharge lamps. Moreover, the inventors have provided a solution to this problem by configuring at least one of the base, the first contact member and the second contact member as an end-of-life device. The present invention controls the end of life for the lamp by forming one of the previously described elements to mechanically fail (i.e., deform or crack) under the stress of an arc discharge. Reger does not discuss the concept of end-of-life management, end-of-life devices, or the glow discharge problem which the end-of-life devices address.

The office action suggests that Reger discloses the limitations of claim 1 and therefore will function as an end-of-life device. Applicants respectfully disagree. "Functioning as an end-of-life device" is a limitation that Reger neither discloses or suggests. In order to function as an end-of-life device, the lamp base or one of the contacts must deform or crack under the specified conditions (here the stress of an arc discharge). This prevents the lamp from overheating when an arc discharge occurs, and therefore prevents damage to the outer envelope and wiring of the lamp.

As specifically provided in the present application, the lamp base may be configured to function as an end-of-life device by forming it of soft glass which will deform or crack before excessive temperatures are reached. Reger is silent regarding the properties of the lamp base, other than to identify that it is a ceramic material comprising approximately 50% titanium oxide and approximately 50% magnesium oxide.

The other references do not provide what Reger lacks. In fact Bruggemann teaches away from the present invention providing for a lamp base with a softening point of about 680 degrees centigrade.

Claims 2 and 5-7 depend from claim 1 and Applicant respectfully contends that they are allowable for the reasons presented above.

### **CLAIM REJECTIONS - 35 USC 103**

Claims 3-4, 8, and 10-13 stand rejected under 35 USC 103 (a) as being obvious over Reger in view of U.S. Patent No. 6,204,598 to Bruggemann et al. (hereafter Bruggemann). Claims 2-4 and 7-8 depend from claim 1 and Applicant respectfully contends that they are allowable for the reasons claim 1 is allowable.

Applicants respectfully contend that claim 10 is also allowable for the reason that includes another feature that is neither disclosed nor suggested in Reger, Bruggemann or any other reference, namely "the base comprises a soft glass having a softening point such that the base deforms or cracks under a thermal stress of an arc discharge". The cracking of the soft glass base under a thermal stress of an arc discharge constitutes an end of life device in this embodiment. The Office Action suggests that Bruggemann discloses a soft glass base, and that it would be obvious to use the soft glass base of Bruggemann in the lamp of Reger because soft glass is highly compatible with NiFeCr leads, and that since the combination of Reger and Bruggemann disclose the structure and materials of claim 10 the base will deform or crack under a thermal

stress of an arc discharge. Applicants respectfully disagree. Just because some soft glass bases will deform or crack under a thermal stress of an arc discharge, that does not mean that it is inherent in soft glass. Many other factors contribute to the stress that will cause deformation/cracking including the specific composition of the soft glass, the fabrication process, dimensions of the soft glass, and the like. Neither Reger nor Bruggemann disclose or suggest a base adapted to deform or crack under a thermal stress of an arc discharge.

Applicants respectfully contend that Claim 13 is also allowable for the reason that includes another feature that is neither disclosed nor suggested in Reger, Bruggemann or any other reference, namely “at least one of the first contact member and the second contact member is configured to form a fuse”. The Office Action argues that Bruggeamm teaches this feature because it discloses contact members made from oxidized nickel-iron-chromium material. Applicants respectfully disagree. Merely because the contacts are made from a similar material does not mean that they are configured to perform as a fuse. A fuse is adapted to fail under specific conditions and typically comprises a combination of material and dimensional features to achieve this. Neither Reger nor Bruggemann disclose or suggest contacts configured to be fuses.

Claim 9 stands rejected under 35 USC 103 (a) as being obvious over Reger in view of U.S. Patent Publication No. 2003/0076041 to Honda et al. (hereafter Honda). Claim 9 depends from claim 1 and Applicant respectfully contends that it is allowable for the reasons claim 1 is allowable.

Applicants respectfully contend that claim 9 is further allowable because it includes another feature that is neither disclosed nor suggested by Reger or Honda, or any the other reference cited, namely “the ratio of the distance  $d_e$  between the electrodes (6, 7) to the height  $h_{d1}$  of the high-pressure discharge lamp along the longitudinal axis (22) lies in a range of:  $0.02 \leq d_e/h_{d1} \leq 0.2$ .”

The office action of September 17, 2007 concedes that neither Reger nor Honda disclose

an overall height of a discharge lamp. Therefore neither Reger nor Honda can disclose or suggest a ratio of the electrode gap to the overall height. The office action states that it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. The office action appears to suggest that this ratio is obvious because it is merely an optimum or workable range for a known feature. Applicant respectfully disagrees. The claimed ratio is not a range for a known feature such as a material composition or a range in a manufacturing process. Instead, this ratio represents a distinct advantage in a discharge lamp as described in the application. This ratio represents a significant shortening of the overall length for a discharge lamp due to the improved control of the atmosphere in the outer envelope.

### **CONCLUSION**

In view of the amendments and arguments presented herein, Applicant respectfully contends that claims 1-11 and 13 are in condition for allowance. Accordingly, Applicant respectfully requests entry of the amendments, reconsideration and allowance of claims 1-13 and issuance of letters patent.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven E. Bach", with a long horizontal flourish extending to the right.

Steven E. Bach

Attorney for the Applicant

Reg. No. 46,530